AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): An apparatus comprising:

a source generator configured to convert image information into digital image information; and

an encoder coupled to the source generator, the encoder configured to receive the digital image information from the source generator and comprising:

a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback;

an image compressor coupled to the parameter generator, the image compressor to compress the digital image information using the final set of parameters, wherein the encoder outputs the compressed digital information ~~when the set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback~~.

Claim 2 (Currently Amended): The apparatus of claim 1, wherein the parameter generator comprises:

a second image compressor to compress the digital information using ~~the~~ a first set of parameters;

a processor coupled to the second image compressor, the processor to adjust the first set of parameters and generate a second set of parameters~~,~~ when the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold, and set the ~~second~~ first set of parameters as said final set of parameters when the ~~second~~ first set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 3 (Currently Amended): The apparatus of claim 2, wherein the parameter generator further comprises:

a statistic generator coupled to the processor, the statistic generator configured to generate a statistical analysis; and wherein

the processor adjusts the ~~second~~ first set of parameters based on the statistical analysis.

Claim 4 (Currently Amended) The apparatus of claim 1, wherein the parameter generator comprises:

a processor to output ~~the~~ a first set of parameters, the processor to adjust the first set of parameters to generate a second set of parameters if the use of the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold, and to output the ~~second~~ first set of parameters as said final set of parameters when the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 5 (Currently Amended): The apparatus of claim 4, wherein the parameter generator further comprises:

a statistic generator coupled to the processor, the statistic generator configured to generate a statistical analysis; and wherein

the processor adjusts the first set of parameters based on the statistical analysis.

Claim 6 (Original): The apparatus of claim 5, wherein the statistical analysis involves analyzing bits per pixel for images.

Claim 7 (Currently Amended): The apparatus of claim 5, wherein the statistical analysis determines the effectiveness of the first set of parameters.

Claim 8 (Currently Amended): The apparatus of claim 1, wherein the final set of parameters includes Q-steps and the first image compressor comprises:

a transform module to convert the digital image information from spatial to frequency domain, the transform module to generate transform coefficients;

a quantization module to quantize the transform coefficients using the Q-steps; and

a variable length coding module to compress the quantized transform coefficients.

Claim 9 (Currently Amended): The apparatus of claim 8, wherein the final set of parameters further includes frequency weight mask (FWM) tables and the quantization module to quantize the transform coefficients using FWM tables and Q-steps.

Claim 10 (Currently Amended): The apparatus of claim 8, wherein the final set of parameters further includes [[a]] Huffman code tables and the variable length coding module includes a Huffman engine to compress the quantized transform coefficients using the Huffman code tables.

Claim 11 (Currently Amended): The apparatus of claim 8, wherein the final set of parameters further includes an adaptive block size discrete transform (ABSDCT) threshold and the transform module comprises an ABSDCT module to convert the digital image information from spatial to frequency domain using ABSDCT according to the ABSDCT threshold.

Claim 12 (Original): The apparatus of claim 1, wherein the digital image information is at least a portion of a film.

Claim 13 (Withdrawn): A method for encoding digital image information comprising:

generating and outputting at least a first set of parameters;

compressing the digital image information using the first set of parameters; and

adjusting the first set of parameters to generate a second set of parameters if the use of the first set of parameters results in a selected data bit rate, and outputting the second set of parameters as the first set of parameters.

Claim 14 (Withdrawn): The method of claim 13, wherein compressing the digital image information comprises:

converting the digital image information from spatial to frequency domain and generating transform coefficients;

quantizing the transform coefficients using first Q-steps; and

variable length coding the quantized transform coefficients.

Claim 15 (Withdrawn): The method of claim 14, wherein the first set of parameters includes the first Q-steps and adjusting the first set of parameters comprises:

adjusting the first Q-steps to generate the second set of parameters if the use of the first set of parameters results in the selected data bit rate, and outputting the second set of parameters as the first set of parameters.

Claim 16 (Withdrawn): The method of claim 14, wherein quantizing the transform coefficients using the first Q-steps and first frequency weight mask (FWM) tables.

Claim 17 (Withdrawn): The method of claim 16, wherein the first set of parameters includes the first Q-steps and the FWM tables, and wherein adjusting the first set of parameters comprises:

adjusting either one or both the first Q-steps and the first FWM tables to generate the second set of parameters if the use of the first set of parameters results in the selected data bit rate, and outputting the second set of parameters as the first set of parameters.

Claim 18 (Withdrawn): The method of claim 14, wherein converting the digital image information using ABSDCT based on a first ABSDCT threshold.

Claim 19 (Withdrawn): The method of claim 18, wherein the first set of parameters includes the first Q-steps and the first ABSDCT threshold, and wherein adjusting the first set of parameters comprises:

adjusting either one or both the first Q-steps and the first ABSDCT threshold to generate the second set of parameters if the use of the first set of parameters results in the selected data bit rate, and outputting the second set of parameters as the first set of parameters.

Claim 20 (Withdrawn): The method of claim 19, wherein variable length coding comprises Huffman coding the quantized transform coefficients using first Huffman code tables.

Claim 21 (Withdrawn): The method of claim 20, wherein the first set of parameters includes the first Q-steps and the first Huffman code tables, and wherein adjusting the first set of parameters comprises:

adjusting either one or both the first Q-steps and the first Huffman code tables to generate the second set of parameters if the use of the first set of parameters results in the selected data bit rate, and outputting the second set of parameters as the first set of parameters.

Claim 22 (Withdrawn): The method of claim 13, wherein adjusting the first set of parameters based on a statistical analysis to generate the second set of parameters.

Claim 23 (Withdrawn): The method of claim 22, wherein the adjusting the first set of parameters based on a bits per pixel analysis to determine if the use of the first set of parameters results in the selected data bit rate.

Claim 24 (Withdrawn): The method of claim 13, wherein the selected bit rate depends on either one of a maximum bit rate as allowed a limited bandwidth or an average bit rate over a certain time period.

Claim 25 (Currently Amended): An apparatus for encoding digital image information comprising:

means for outputting a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback; and

means for compressing the digital image information using the final set of parameters, wherein the apparatus outputs the compressed digital image information ~~when the set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback~~.

Claim 26 (Currently Amended): The apparatus of claim 25, wherein the means for outputting the set of parameters comprises:

means for compressing the digital information using a ~~second~~ first set of parameters;

means for outputting the ~~second~~ first set of parameters;

means for adjusting the ~~second~~ first set of parameters when the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold and set the ~~second~~ first set of parameters as said final set of parameters when the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 27 (Withdrawn): The apparatus of claim 25, wherein the means for outputting at least the first set of parameters comprises:

means for adjusting the first set of parameters to generate a second set of parameters if the use of the first set of parameters results in a selected data bit rate; and

means for outputting the second set of parameters as the first set of parameters.

Claim 28 (Currently Amended): An apparatus for encoding digital image information comprising:

a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback;

an image compressor coupled to the parameter generator, the image compressor to compress the digital image information using the final set of parameters, wherein the apparatus outputs the compressed digital image information ~~when the set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback.~~

Claim 29 (Currently Amended): The apparatus of claim 28, wherein the parameter generator comprises:

a second image compressor to compress the digital information using ~~the~~ a first set of parameters;

a processor coupled to the second image compressors, the processor to adjust the first set of parameters when the set of parameters is determined to result in the compressed data bit rate not below the selected threshold and set the ~~second~~ first set of parameters as said final set of parameters when the ~~second~~ first set of parameters is determined to result in the compressed data bit rate below the selected threshold.

Claim 30 (Withdrawn): The apparatus of claim 28, wherein the parameter generator comprises:

a processor to output the first set of parameters, the processor to adjust the first set of parameters to generate a second set of parameters if the use of the first set of parameters results in a selected data bit rate, and to output the second set of parameters as the first set of parameters.

Claim 31 (Currently Amended): The apparatus of claim 1, wherein the parameter generator comprises:

a processor to adjust ~~the~~ a first set of parameters to generate a second set of parameters if the use of the first set of parameters is determined to result in the compressed data bit rate not below the selected threshold and to repeatedly adjust the second set of parameters until the second set of parameters is determined to result in the compressed data bit rate below the selected threshold.